



Michael Sweeney
Moorefort
Lattin
Co. Tipperary
Tel 062 55385
Fax 062 55483
E-mail m.sweeney@nrge.ie

SONJA SMITH,
OFFICE OF CLIMATE, LICENSING, & RESOURCE USE,
ENVIRONMENTAL PROTECTION AGENCY
SEVILLE LODGE, P.O. BOX 3000,
JOHNSTOWN CASTLE ESTATE
CO WEXFRD

12 July 2010

Our Ref :- IPC Reg. P0467-02

Re ; WOODVILLE PIG FARMS LTD IPPC LICENSE REVIEW.

Dear Ms. Smith,

On behalf of the Licensee, I herein acknowledge receipt of your correspondence dated 21st January 2009, in respect of the application for a review of the IPPC licence for this facility, which was submitted 24 November 2008. In particular your request in accordance with Article 14(2)(b) of the Environmental Protection Agency (Licensing) Regulations 1994 to 2008, regarding compliance with sub Article 14(1), in so far as the risk of environmental pollution is concerned.

In accordance with the provisions of Article 14(2)(b), we herein supply the additional information requested, to allow the Agency complete a comprehensive assessment of the IPPC Licence application, in the same numerical format.

Yours sincerely,

MICHAEL SWEENEY

IPPC LICENSE REG No P0467-02

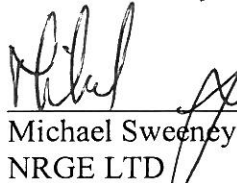
1. Additional information was submitted to An Bord Pleanala in respect of the proposed development of an anaerobic digester at Ballaghveny (Planning file Ref No 07/51/0108), in November 2008. A full copy of this submission is included in Attachment No 5.

Additional information was submitted to An Bord Pleanala in respect of the proposed development of the Pig Fattening unit at Ballyknockane (Planning file Ref No 07/51/0106), in November 2008. A full copy of this submission is also included in Attachment No 2.

In addition an updated Non Technical Summary has been compiled, to reflect the information contained herein, and same is included in Attachment No 1 for your attention.

This response is contained in hardcopy (1 signed original, 1 copy), and 16 copies of all files in electronic searchable PDF format on CD-ROM.

Yours Sincerely


Michael Sweeney
NRGE LTD


Michael McEniry
NRGE LTD

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ATTACHMENT 1

1. NON-TECHNICAL SUMMARY

1.1 This proposal for an Anaerobic Digester adjacent to the proposed Grain Storage Sheds at Ballaghveny (Grid Ref E197246, N181819), the pig fattening unit at Ballyknockane (Grid Ref E198148 N181804), and the pig breeding unit at Woodville (Grid Ref E196501, N182023) is being put forward by NRGE (Nutrient Recovery to Generate Electricity) Ltd, whose registered office is at Mooresfort Lattin Co Tipperary. This application has been prepared and submitted by NRGE on behalf of Woodville Pigs Ltd, whose registered office is at Woodville, Ballymackey, Nenagh, Co Tipperary to generate green energy (Electricity and heat), and a uniform balanced fertiliser, at the digester by treating the pig manure from the associated farms, when mixed with imported organic waste, in support of the IPPC License Review application (IPPC Reg No P0467-02). The facility will conform to the highest standards. The proposal is fully in line with the Regional Waste Management Plan.

1.2 The proposed stock numbers for the 2 No associated pig farms incorporated with the proposed anaerobic digester, included in the review of this IPPC License (Reg No P0467-02) are 350 farrowing Sows, 850 dry sows, 300 gilts, 15 boars, 6600 weaners, and 8000 fattening pigs

1.3 The planning status of the proposed development of an anaerobic digester (Planning File No 07/510108), is that Full Planning Permission was granted by An Bord Pleanala by decision dated 21/01/09. The An Bord Pleanala file Ref No was 22.226891. A copy of the An Bord Pleanala decision is included in Attachment No 3 of this report.

The planning file Reference No for the proposed new loose dry sow house, guilt house and extension to the farrowing house at Woodville Pig Breeding unit is 10/510163. A Further Information request has been issued by North Tipperary County Council on the 8th of June 2010 in respect of this application. A full copy of this planning application, and the F.I. issued by North Tipperary County Council is included in Attachment 17 of this report. A response will be issued shortly in respect of this F.I. from North Tipperary County Council, and a copy of this document will also be forwarded directly to the Agency. A full copy of the Grant of planning permission, with conditions granted for the Pig Fattening unit at Ballyknockane (Planning File No.07/51/0106), is included in Attachment No 4 of this report

1.4 The proposed AD development at Ballaghveny will occupy a landscaped site of approximately 9.33 hectares, (23.1 acres). The proposed works will also provide for the construction of two No.grain stores, and a mill, which will supply milled grain to adjacent farms. It is planned to utilise heat from the CHP plant of the proposed gas turbine to dry the grain. This will reduce the dependency of fossil fuels currently used for this process.

The breeding unit development at Woodville, will occupy a landscaped site of approximately 2.34 hectares, (5.78 acres). The proposed works will increase the sow numbers on site, from the current level of 920 to 1200.

The fattening unit at Ballyknockane occupies a landscaped site of approximately 2.74 hectares, (6.77 acres)

The proposed works will not increase the stock numbers on site, which is currently 8,000 pigs reared to bacon weight, but rather provide compliance with the forthcoming E.C. Regulations on Animal Welfare, Nitrate Directives, and incorporates emission reduction measures, as required by regulation, along with the replacement of existing old structures on site. The combination of these units provides an integrated facility.

1.4. The buildings and their layout are state of the art for the industry. All clean water from the three Sites, is collected via the storm water collection system (See Site Layout Plans, in Attachments 13, 14, and 15), and directed into the monitoring points identified, and marked on said drawings. These monitoring points will be visually inspected weekly, and sampled quarterly. All soiled water in the pig breeding and fattening units will be All soiled water will be diverted into the adjacent pre mix or storage tanks.

1.5 This proposed development complies fully with the requirements of the IPC Licence's Reg No P 0467-01, issued by the Environmental Protection Agency, in respect of the breeding unit located at Woodville, Ballymackey, Nenagh, Co Tipperary. The fattening unit at Ballyknockane, Ballymackey, Nenagh, Co Tipperary, which is associated with Woodville Pig farm, now makes this facility an integrated facility. All stock bred and reared at the Woodville breeding unit, are finished to factory weight at the Ballyknockane fattening unit.. The main components of this proposal are;

- (i) Removal of pig manure from under pig houses on the two referenced pig farms to the proposed anaerobic digester for treatment within 2-4 weeks of production.
- (ii) Construction of 3 No. Grain Stores for drying and storage of locally produced grain, prior to milling and resale to local pig farms. It is planned to purchase grain from customer farms who use digestate as a fertiliser source.
- (iii) Treatment of pig manure in anaerobic digester adjacent to site, to produce electricity, heat, and a uniform balanced fertiliser for supply to local customer farms.

1.6 The estimated annual production of pig manure from the three referenced pig farms is 15,134 M3 from the Ballyknockane fattening unit, 11,183 M3 from Woodville Pig Farm. The location of these units in relation to the proposed site are identified in a location map (Scale 1:50,000) included in Attachment 1 of this report.

Therefore the total volume of pig manure to be treated by the proposed Anaerobic Digester is 26,317M3 annually.

- 1.7 The proposed development will give direct employment to 1 full time staff member, and a trained manager, at the anaerobic digester site, 5 full time staff members and a trained manager, at the breeding unit, and 2 full time staff members and a trained manager at the fattening unit. . It will also give rise indirectly to another 40 jobs in the pig meat processing, milling and service sectors.
- 1.8 The digestate will be supplied to customer farms who currently utilise pig manure from the above referenced pig farms. The application of fertilisers to farm land is now regulated under S.I. 101 of 2009, and all distribution of digestate will comply with those regulations.
- 1.9 It is planned to import an additional 22,500 tonnes of organic material per annum to mix with the pig manure to increase the efficiency of the proposed Anaerobic Digester. The volume of organic material was increased, to ensure the viability of this project. This organic material will be added directly to the mixing tank and will be green crop (maize, grass, oil seed or corn), or alternatively will be belly grass from adjacent meat factories, cake sludge from adjacent dairy processing plants, fish waste, or by-products from green energy processing plants etc. It is proposed to use only organic materials that are currently being applied to land, as this process will greatly reduce current environmental impacts. The approval of the Environmental Protection Agency, North Tipperary County Council and the Department of Agriculture will have to be granted to permit the treatment of other waste types at this proposed anaerobic digester.
- 1.10 The proposed development of an Anaerobic digester on site will significantly reduce the risk to surface and groundwater, generally in the area.
- 1.11 However with the development of the anaerobic digester the P content of the resultant liquid digestate, will be reduced by 80%% due to the separation of fibrous material after treatment.
- 1.12 Following a detailed review of all available alternative technologies, to treat pig manure, as required by the above referenced IPC licence's issued by the Environmental Protection Agency, it has been decided that the most suitable technology for this site is Anaerobic Digestion, which is simply the natural breakdown of organic waste in the absence of air. A Digester is simply a warmed, mixed, airless vessel which creates ideal conditions for the necessary bacteria, to naturally break down this material. A chain reaction of different bacteria, attack the carbon in the digesting material, giving off methane gas as biogas (65% Methane). This gas can be collected, contained, and then burned to create electricity, and/or heat, or in some cases processed further into a vehicle fuel. It is now accepted within the EU that farming and life in general must become more sustainable with regard to care taking the environment, and maintaining rural life. There is now a significant amount of legislation that is demanding this sustainable

and integrated approach. The use of anaerobic digestion can help to meet many of these targets

- (i) **The pig manure produced on these pig farm's will provide over 50% of the required fuel waste for this anaerobic digester**
- (ii) **The additional fuel waste required will be sourced, and transported to the facility by lorry, at a rate of 18-25 loads per week.**
- (iii) **The gas generated will be used to generate electricity for sale to the National Grid, and the heat from the CHP turbine will be used to maintain the AD process, heat adjacent properties, facilities, and dry grain, thus replacing oil usage.**
- (iv) **The excess power will be exported to the national grid.**
- (v) **The solids will be separated, including 80% of the P.**
- (vi) **The liquid fertiliser will be supplied to customer farms, in accordance with the requirements of S.I. No 101 of 2009.**
- (vii) **The odour impact of spreading digestate vv pig manure will be reduced by 80% min.**
- (viii) **The digestion process will destroy 98% of all pathogens & parasites.**
- (ix) **The digestate is relatively stable, and will not produce a crust in storage.**
- (x) **The digestion process will kill all weed seeds.**
- (xi) **The digestate is a pleasant, clean and easy material to handle.**
- (xii) **The digestate is a more uniform and stable fertiliser source, than pig manure**

1.13 This Environmental Impact Statement was compiled following an environmental assessment of these proposed developments of an Anaerobic Digester, and extension to the breeding unit at woodville, the subject of this IPPC License Review application. Flora & Fauna, archaeological monuments and traffic levels were also noted. The following statements may be made.

- (a) This proposed facilities are located in a rural area where agricultural is predominant. The proposed sites are a disused quarry (in respect of the AD plant), with varying levels, pits and mounds as can be seen on the site layout plan in Attachment 13, of this report, as determined by the site survey. Ballaghveny Landfill Site is located across the road from the proposed AD site. The associated pig farms are both existing facilities. The overall emissions from these existing farms, and associated operations, will be reduced as a result of this proposed development. (See Attachment 10 of this report)

- (b) The quality of the surface and groundwater adjacent to the proposed sites are currently being monitored by the EPA, with regard to the adjacent landfill site, which provides a good baseline pre development. It is proposed to expand this monitoring with up gradient and down gradient groundwater monitoring on site, and quarterly grab monitoring of all storm water leaving the proposed AD facility via a monitoring point. Storm water monitoring at the associated pig farms is carried out in accordance with Agency requirements, as well as groundwater monitoring at both units. A review of these results indicates that the results are within guideline limits.
- (c) The impacts from traffic, noise and odours from the proposed development will be insignificant after all practical steps have been taken to mitigate them.
- (d) Pig manure will be delivered to the proposed development via tankers, and digestate will be delivered to customer farms by lorry tanker.
- (e) The customers lands selected whereupon pig manure digestate will be used are well drained and are mostly deficient to low in phosphorus, one of the main plant nutrients supplied by pig manure. No contamination of surface waters with run-off waters containing high phosphorus content can be foreseen with the applied management. Neither will contamination of groundwater with nitrate-nitrogen take place.
- (f) The quality of the surface and groundwater leaving the area of customer farms is good.
- (g) Pig manure digestate will be applied using tankers equipped with low trajectory splash plate or the band spreading method.

- 1.14 Proposals for monitoring surface and ground waters at the sites are set down in the Environmental Impact Statement. A register of digestate quantities, date of delivery and name of landowner will be maintained on site for inspection by North Tipperary County Council, The Department of Agriculture, and the EPA at all reasonable times.
- 1.15 The flora, fauna and habitats of the site were studied. Flora and fauna should not be affected by the development and there will be no loss of habitat
- 1.16 There will be no damage to any site of archaeological or historic interest as a result of the proposed development. Disturbance of the landscape will be minimal during the construction period, and all excavated material will be reused within the site boundary. The site will be suitably landscaped, with the

planting of trees etc., in a manner sensitive to the environment. There will be no negative effects on tourism in the area.

- 1.17 The development will have a positive impact on human beings from the increased employment it will create, and the resultant reduction of existing impacts from emissions. The three number developments is located in an agricultural area, the buildings will blend into the surrounding area. Also, the developments will be landscaped with a screening of trees, shrubs and flowers. Thus, there will be no nuisance or loss of amenity.

Effects of the development on air are insignificant outside the buildings and adjoining yards. The application of digestate will replace the current practice of pig manure application to land, resulting in an 80% reduction of odours generated, due to gas extraction. Pig manure will also be moved fresh from the pig farms to the Anaerobic Digester, within 2-4 weeks of production, thereby reducing emissions from those pig farms. Low protein diets are been utilised on these farms, which can achieve a reduction of 30%, of emissions from those farms. The fresh removal of pig manure from these pig farms and regular delivery o the proposed anaerobic digester will further reduce emissions by 20-50%.

Noise levels from the development are unlikely to be a nuisance. The main sources of noise at the development will be the gas turbine which will be mitigated by the construction of a sound proof generation room. There will also be some noise from delivery vehicles. However, at a distance of 100 metres from the development noise levels are not greatly above background noise levels.

The development will have an insignificant effect on the climate of the area.

Thus the measures that have been put in place will ensure that impact/effects of the

Development on human beings, noise, air, climate and the interaction of human beings, Fauna, soils, air, water, climate, landscape and material assets will be minimised.

- 1.18 In a discussion paper published by the Environmental Protection Agency (January 2005), it concluded that "*Anaerobic Digestion has the potential to deliver multiple environmental benefits, including reduced water pollution potential, lower green house gas emissions, and reduced odours from agricultural slurries*" (see Appendix 4).
- 1.19 This proposed development has the potential to benefit all stakeholders adjacent to the proposed site and the 2 No referenced pig farms, as well as customer farms in the area. The nett result of this proposed development will be a reduction of existing impacts to the order of 20-50%, from the existing

pig farms and 80% from the application of digestate in place of pig manure to customer farms.

- 1.20 This proposed development has the potential to provide an economic outlet for crops grown by customer farmers in the area, on lands that may not otherwise be utilised fully. These crops can be fertilised by the digestate from the process. It is also worth stating that the existing pig farm provides a market for locally grown grain, which can also be fertilised by the digestate resulting from this process.
- 1.21 There is sufficient storage capacity available for the digestate post treatment, by means of 2 No storage basins at the proposed digester site, and the secondary digester, amounting to 12090 M3, the provision of an additional basin at the fattening unit, amounting to 4545 M3, and the proposed provision of potentially 3 No additional storage basins, on customer farms, which will be the subject of separate planning applications.

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